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10/615,403

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EXAMINER

BERNATZ, KEVIN M

ART UNIT

PAPER NUMBER

1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/615,403 | Applicant(s) ONOE ET AL. | |
| | Examiner Kevin M. Bernatz | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 13-15 is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/12/05; 7/26/05; 3/26/07; 11/23/07.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1 – 18) in the paper filed March 3, 2008 is acknowledged. Claims 19 – 24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claims 13 – 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 3 and 10 – 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 10 recite a limitation directed to a “width of a track of the DE recording medium”, but do not recite what range in track width is deemed to be

acceptable for the claimed width. The Examiner notes that this rejection can be overcome by positively reciting in the claim the range in the width of a track of the dielectric recording medium.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4, 6 - 10 and 16 - 18 are rejected under 35 U.S.C. 102(a) and/or (b) as being anticipated by Naito et al. (EP 1091355 A2) –***and/or-***

Claims 1, 4, 6 - 10 and 16 - 18 are rejected under 35 U.S.C. 102(a) and/or (b) as being anticipated by Naito et al. (U.S. Patent No. 6850,480 B1). See US '480 B1 for column+line citations, since US '480 B1 is the US equivalent of EP '355 A2 (*see provided Derwent Abstract Translation*).

Regarding claim 1, Naito et al. disclose a dielectric (DE) recording/reproducing (rec/rep) head (*Title and Abstract*), comprising a rec/rep electrode (*Figures 2 and 10, element 25 and relevant disclosure thereto*).

The limitation(s) “for a dielectric recording medium” and “for recording information or data in the dielectric recording medium or reproducing information or data recorded in the dielectric recording medium” are intended use limitation(s) and are not further limiting in so far as the structure of the product is concerned. Note that “in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. **If the prior art structure is capable of performing the intended use, then it meets the claim.** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.” [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02. In the instant case, the Examiner notes that Naito et al. disclose “dielectric” recording media (*col. 5, lines 46 – 60*) as well as the fact that the electrode is used during recording and reproduction (*relevant disclosure to electrode*), hence meeting the claimed intended use limitations.

The Examiner notes that the limitation in the first width relative to the track width of the DE recording medium is not a positive limitation in so far as it applies *solely* to the magnetic head. Specifically, the track width of the DE recording medium can be influenced by a wide variety of factors, not solely the claimed DE rec/rep head. Presently, the claims are directed solely to a DE rec/rep head (*as opposed to a DE rec/rep apparatus*) and for the purposes of evaluating the prior art, the Examiner has interpreted the limitations regarding the relative track density only as it impacts the

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structure of the DE rec/rep head. Specifically, the Examiner notes that the first width tip portion must be larger than any known conventional track width, e.g. submicron size or less.

Regarding claims 4 and 10, Naito et al. disclose a DE rec/rep head as described above, and further discloses a slider having a surface facing to the DE recording medium (*Figure 10, element 42 and relevant disclosure thereto*).

Regarding claims 6, 7 and 16 - 18, Naito et al. disclose the slider containing the electrode for use in rec/rep (*element 25*). The Examiner deems that the slider would necessarily possess a conductive film/member meeting the claimed limitations in order to provide current to the disclosed electrode element. Furthermore, the Examiner takes Official Notice that sliders are conventionally formed of insulating members, such as circuit boards, in order to contain the wiring necessary to transmit the required information back to the controller. The Examiner notes that the limitations "is held by the insulator" and "for holding ... inside of the slider" in claims 17 and 18 are intended use limitations necessarily met by the disclosed structure of Naito et al., since the rec/rep electrode is necessarily securely fastened to the slider in some manner.

Regarding claim 8, Naito et al. disclose sliders meeting Applicants' claimed structural limitations (*Figure 10*).

Regarding claim 9, Naito et al. disclose electrode tips not projecting from the surface of the slider (*Figure 10, elements 25 and 42*).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 – 3, 6, 7, 10 – 12 and 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al. as applied above, and as evidenced by Takanashi et al. (EP 398656 A or U.S. Patent No. 5,226,029 A). See U.S. '029 A, which is the US equivalent to EP '656 A (see provided Derwent Abstract Translation).

Regarding claims 1 and 10, Naito et al. is relied upon as described above.

While the Examiner deems that Naito et al. anticipates claims 1 and 10 for the reasons noted above, the Examiner acknowledges that Naito et al. fail to explicitly disclose controlling the first width of tip of the rec/rep electrode to be larger than a track width of the DE recording medium.

However, the Examiner deems that it would have been obvious to one having ordinary skill in the art to have determined the optimum value of a results effective variable such as the width of the tip of the rec/rep electrode relative to the width of a track on the DE recording medium through routine experimentation, especially given the teaching in Takanashi et al. regarding the desire to control the width of the electrode rec/rep head to be larger than the interval in the tracks (*col. 14, line 30 bridging col. 15, line 32*), where the Figures of Takanashi et al. clearly denote that the spacing between the tracks and the track widths are substantially identical. *In re Boesch*, 205 USPQ 215

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(CCPA 1980); *In re Geisler*, 116 F. 3d 1465, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d, 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claims 2, 3, 11 and 12, the Examiner deems that it would have been obvious to one of ordinary skill in the art to optimize the shape depending on the shape of the recording track/bits used. The Examiner notes that either an ellipsoidal or rectangular tip portion would necessarily meet the limitations of claims 2 and 11.

Regarding claims 6, 7 and 16 - 18, while the Examiner deems that these claims are necessarily anticipated for the reasons noted above, even should they be deemed not anticipated by the disclosed slider of Takanashi et al., the Examiner deems that one of ordinary skill in the art would readily appreciate applying a conductive film as a portion of the slider to connect to the electrode element in order to supply the current to the electrode. Furthermore, the Examiner deems that one of ordinary skill in the art would also readily appreciate that one should apply an insulating layer between the conductive portion and/or the electrode and the surrounding components in order to insure that the electrode does not short out to other conductive elements.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al. as applied above in Paragraphs No.'s 6 and 8, and further in view of Kim et al. (EP 1154422 A1 and/or U.S. Patent No. 7,020,064 B2). See U.S. '064 B2, which is the US equivalent to EP '422 A1 (see provided Derwent Abstract Translation).

Naito et al. is relied upon as described above.

Naito et al. fail to disclose using a cantilever tip.

However, Kim et al. teach that one can use a cantilever tip, and especially a plurality of cantilever tips, to form an electrode for use in a recording media application, wherein such a structure allows for good control of the electrons, as well as the ability to access a large area with little movement (*col. 6, lines 4 – 36*).

It would therefore have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the device of Naito et al. to use a cantilever shape meeting Applicants' claimed limitations as taught by Kim et al., since such a shape allows for good control of the electrons, as well as the ability to access a large area with little movement.

Allowable Subject Matter

10. The following is a statement of reasons for the indication of allowable subject matter: Claims 13 – 15 are allowable over the prior art of record since the prior art of record fail to teach or render obvious the claimed tracking signal detection electrode in combination with the claimed rec/rep electrode. The Examiner notes that the limitation "tracking signal detection" has been given weight in that the electrode must be disclosed as capable of detecting a tracking signal from the DE recording medium (i.e. it must be capable of performing the claimed intended use).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure. A plurality of references disclose DE rec/rep apparatus, but fail to disclose the specifics of the tip and/or the tracking features. See IDS reference JP 57-200956 A; IDS reference EP 739004 A1; U.S. Patent No. 7,242,661 B2 and IDS reference JP 2003-085969 A (Cho et al.); and U.S. Patent No. 5,481,527 (Kasanuki et al.).

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The Examiner can normally be reached on M-F, 8:30 AM - 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kevin M Bernatz, PhD/
Primary Examiner, Art Unit 1794

June 6, 2008